ATLONA
Connecting technology to your world

HDMITM Extender over 5-Wire (RGBHV or 5 x RCA) up to 330ft with Bi-directional IR

AT-HD-RG100SR

Receiver

Sender

User Manual

Toll free: 1-877-536-3976
Local: 1-408-962-0515

USA ★★★★★ SINCE 2003

www.atlona.com

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INTRODUCTION

The AT-HD-RG100SR HDMI™ over 5-Wire Extender with Bi-Directional IR allows user to extend HDMI™ transmission range up to 330ft (100m) with resolutions as high as 1080p 50/60Hz and also supports 3D. AT-HD-RG100SR is extremely easy to install and works perfectly with existing RGBHV or RG-6 coaxial cables, even original Component + Audio cables will work, which makes it perfect to retrofit those extenders to the current technology. Built with Bi-Directional IR pass-through extension, users can control the remote HDMI™ source devices such as Blu-ray players, Cable/Sat Boxes, Video Game consoles, etc… instantly at the display site. The Bi-Directional IR also gives advantage to user to control display via Control System by sending commands (such as on/off, input change, etc...) from Control System to Display.
The AT-HD-RG100SR comes with one transmitting module and one receiving module. Both transmitter modules are based on the HDMI™ 1.3C and HDCP 2.0 and therefore are compatible with:

- All latest video formats such as 1920x1200 or 1080p
- 3D Compatible (all 7 formats)
- EDID pass-though (very important if user would want to connect sources such as computers, 3D players, latest Satellite receivers).
- Supports all latest Audio formats such as Dolby True HD, DTS-master, etc…
- HDCP compatible

FEATURES

- 3D capable
- HDMI™ 1.3c and DVI 1.0 compliant
- HDCP compliant
- Supports 7.1-channel DTS-HD Master Audio and Dolby TrueHD high bitrate audio
- Supports Deep Color and x.v.Color (xvYCC)
- Extends the transmission range up to 330ft (100m) at full 1080p 24-bit color depth; and up to 165ft (50m) at full 1080p 36-bit color depth
- Supports bi-directional IR pass-through (0~60Khz) and Consumer Electronics Control (CEC) channel
- Supports Video resolutions up to WQXGA (2560x1600@60Hz or 1920x1200@75Hz) or 1080p
- Supports VESA DDC and Hot-Plug Detect (HPD)

PACKAGE CONTENT

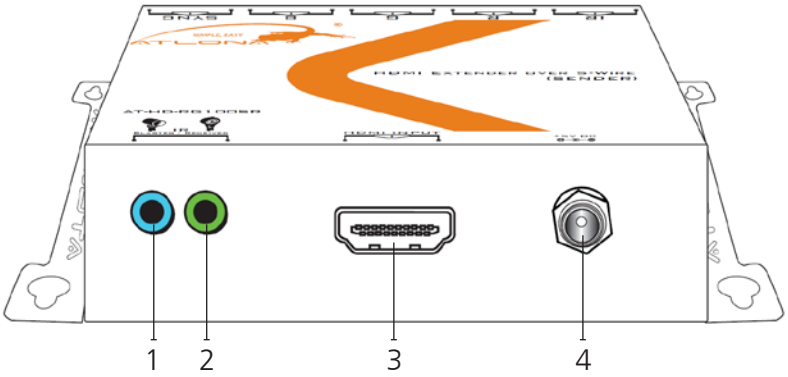
- 1x AT-HD-RG100SR
- 1x IR blaster
- 1x IR receiver
- 2x 5V power supply unit
- 1x User`s manual
- 10 x BNC/RCA adapters

SPECIFICATIONS

Technical		Transmitter	Receiver
3D Support		Yes	Yes
HDMI™ compliance		HDMI 1.3c	
HDCP compliance		Yes	
Video bandwidth		Single-link 340MHz [10.2Gbps]	
Video Support		480i / 480p / 720p / 1080i / 1080p60 / 1920x1200@75 / 2560x1600@60	
Audio Support		Surround sound (up to 7.1ch) or stereo digital audio	
HDMI™ over Coax transmission range		Full HD [1080p 24-bit color] @ 330ft (100m) Deep Color Full HD [1080p 36-bit color] – 165ft (50m)	
HDMI™ equalization		N/A	Auto
Input TMDS signal		1.2 Volts [peak-to-peak]	
Input DDC signal		5 Volts [peak-to-peak, TTL]	
ESD protection		[1] Human body model — ±19kV [air-gap discharge] & ±12kV [contact discharge] [2] Core chipset — ±8kV	
PCB stack-up		4-layer board [impedance control — differential 100 Ω; single 50 Ω]	
Input		1x HDMI™ 1x IR socket for IR receiver	5x BNC 1x IR socket for IR receiver
Output		5x BNC 1x IR socket for IR blaster	1x HDMI™ 1x IR socket for IR blaster
IR remote control		Electro-optical characteristics: τ = 25 ° / Carrier frequency: 20-60kHz	
HDMI™ connector		Type A [19-pin female]	
BNC connector		75 Ω interlocking socket	
3.5mm connector		Earphone jack for IR blaster and IR receiver	
Mechanical			
Housing		Metal enclosure	
Dimensions (L x W x H)	Model	[TX/RX] – 93 x 128 x 27mm [3.6" x 5" x 1.1"]	
	Package	175 x 270 x 80mm [6.9" x 10.6" x 3.1"]	
	Carton	450 x 370 x 300mm [1'6" x 1'3" x 1']	
Weight	Model	560g [1.2 lbs]	
	Package	1350g [3.0 lbs]	
Fixedness		Interlocking power supply & wall-mount case with screws	
Power supply		+5V 2A DC	
Power consumption		3 Watts [max]	
Operation temperature		0~40°C [32~104°F]	
Storage temperature		-20~60°C [-4~140°F]	
Relative humidity		20~90% RH [no condensation]	

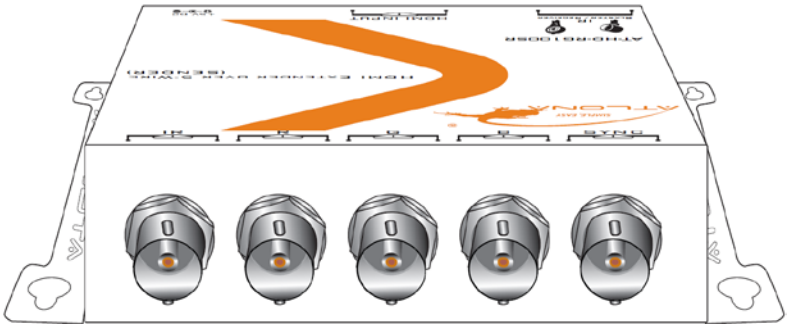
PANEL DESCRIPTIONS

1. Transmitting Module
1.1. Front Panel

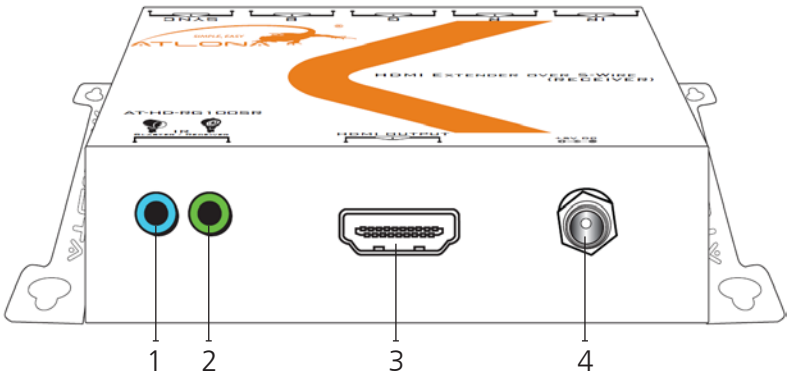


1. IR Receiver: 3.5mm socket for plugging in the extension cable of IR receiver
2. IR Blaster: 3.5mm socket for plugging in the extension cable of IR blaster
3. HDMITM IN: connect to a HDMITM source device with a HDMITM male-male cable here
4. +5V DC: connect to 5V DC power supply unit

1.2. Rear Panel

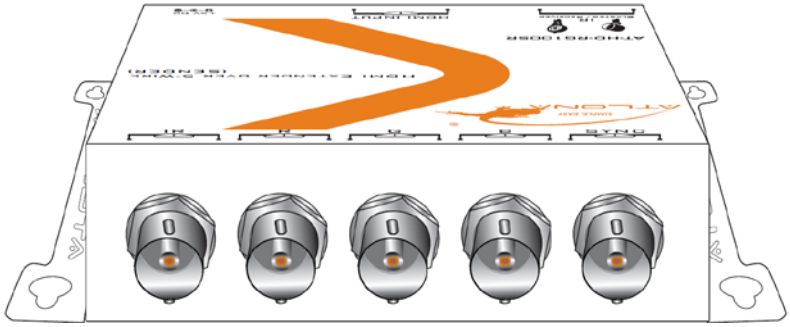


2. Receiving Module
2.1. Front Panel



1. IR Receiver: 3.5mm socket for plugging in the extension cable of IR receiver
2. IR Blaster: 3.5mm socket for plugging in the extension cable of IR blaster
3. HDMITM OUT: connect to a HDMITM display with a HDMITM male-male cable
4. +5V DC: connect to 5V DC power supply unit

2.2. Rear Panel

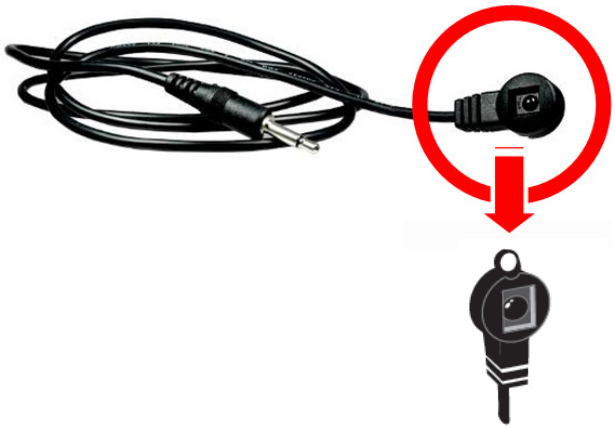


IR PASS-THROUGH

6.1. IR Extenders.

IR Blaster

IR Receiver



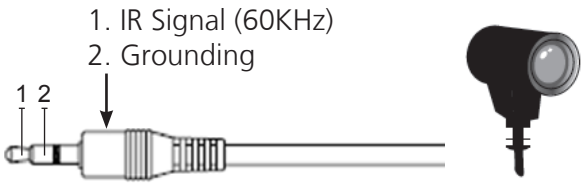
6.2. IR Sockets

IR BLASTER: plug in the IR blaster to emit all IR command signals received from the IR receiver from the other enf to control the devices corresponding to the IR signals.
IR RECEIVER: plug in the IR receiver to receive all IR command signals from the IR remote controls of the corresponding devices.

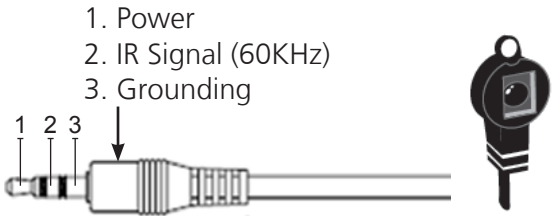
CAUTION!
Incorrect placement of IR Blaster and Receiver may result in the failure of the IR extenders. Please check carefully before plugging in the IR extender to the respective IR sockets. Warranty will not cover the damage.

6.3. Definition of IR Earphone Jack.

IR Blaster



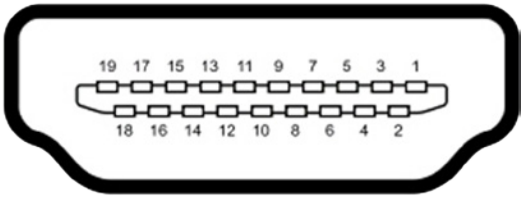
IR Receiver



6.4. Supported IR Data Format.

Data Format	Suitable	Not Recommended
NEC	v	
RC5	v	
TOSHIBA MICOM CODE	v	
GRUNDIG CODE	v	
SONY 12 BIT CODE	v	
SONY 15 BIT CODE	v	
SONY 20 BIT CODE	v	
RCA CODE		v
RCM CODE		v
MATSUSHITA CODE		v
MITSUBISHI CODE	v	
ZENITH CODE	v	
JVC CODE	v	
M50560-001P	v	
MN6125H	v	
MN6125L	v	
MN6014_C5D7	v	
MN6014_C6D6	v	
MC14457P	v	
LC7464(AHEA)	v	
GEMINI_CM	v	

HDMI™ PIN DEFINITION



Type A (Receptacle) HDMI

Pin 1	TMDS Data2+	Pin 8	TMDS Data0 Shield	Pin 15	SCL
Pin 2	TMDS Data2 Shield	Pin 9	TMDS Data0-	Pin 16	SDA
Pin 3	TMDS Data2-	Pin 10	TMDS Clock+	Pin 17	DDC/CEC Ground
Pin 4	TMDS Data1+	Pin 11	TMDS Clock Shield	Pin 18	+5 V Power
Pin 5	TMDS Data1 Shield	Pin 12	TMDS Clock-	Pin 19	Hot Plug Detect
Pin 6	TMDS Data1-	Pin 13	CEC		
Pin 7	TMDS Data0+	Pin 14	Reserved (N.C. on device)		

COAXIAL CABLE

Reference for Coaxial Cables

50Ω Coaxial cable

MHz	dB loss per 100ft	dB loss per 330ft
30	0.105	0.346
50	0.243	0.799
450	0.439	1.440
1500	0.855	2.840
2000	1.020	3.360
2500	1.170	3.840

75Ω Coaxial cable

MHz	dB loss per 100ft	dB loss per 330ft
50	1.45	4.756
100	2.02	0.799
200	2.83	1.440
400	4.05	2.840
700	5.60	3.360
800	6.23	
1000	6.59	
1200	7.50	
1450	8.10	
1800	8.95	
2200	9.98	3.840

SAFETY INFORMATION

Safeguards

To reduce the risk of electric shock, do not expose this product to rain or moisture

Do not modify the wall plug. Doing so will void the warranty and safety features.

If the wall plug does not fit into your local power socket, hire an electrician to replace your obsolete socket.

This equipment should be installed near the socket outlet and the device should be easily accessible in the case it requires disconnection.

Precautions

FCC regulations state that any unauthorized changes or modifications to this equipment, not expressly approved by the manufacturer, could void the user's authority to operate this equipment.

Operate this product using only the included external power supply. Use of other power supplies could impair performance, damage the product, or cause fires.

In the event of an electrostatic discharge this device may automatically turn off. If this occurs, unplug the device and plug it back in.

Protect and route power cords so they will not be stepped on or pinched by anything placed on or against them. Be especially careful of plug-ins or cord exit points from this product.

Avoid excessive humidity, sudden temperature changes or temperature extremes.

Keep this product away from wet locations such as bathtubs, sinks, laundries, wet basements, fish tanks, and swimming pools.

Use only accessories recommended by Atlona to avoid fire, shock, or other hazards.

Unplug the product before cleaning. Use a damp cloth for cleaning and not cleaning fluid or aerosols.

Such products could enter the unit and cause damage, fire, or electric shock. Some substances may also mar the finish of the product.

Never open, remove unit panels, or make any adjustments not described in this manual. Attempting to do so could expose you to dangerous electrical shock or other hazards. It may also cause damage to your AT-HD-RG100SR. Opening the product will void the warranty.

Do not attempt to service the unit. Disconnect the product and contact your authorized Atlona reseller or contact Atlona directly.

WARRANTY

Limited Warranty

Atlona Technologies warrants that (a) its products (the AT-HD-RG100SR) will perform substantially in accordance with the accompanying written materials for a period of 3 years from the date of receipt and (b) that the product will be free from defects in materials and workmanship under normal use and service for a period of 3 years. In the event applicable law imposes any implied warranties, the implied warranty period is limited to 3 years from the date of receipt. Some jurisdictions do not allow such limitations on duration of an implied warranty, so the above limitation may not apply to customers that fall within those areas.

Customer Remedies

Atlona Technologies' and its suppliers' entire liability and Customer's exclusive remedy shall be, at Atlona Technologies' decision, either return of the price paid for the product, repair, or replacement of the product that does not meet this Limited Warranty and which is returned to Atlona Technologies with a copy of the Customer's receipt. This Limited Warranty is void if failure of the product has resulted from accident, abuse, misapplication, or natural occurrence. In example but not limited to: power surges (electrical storms, local power outage), dropping the product (or items on the product), contact with fluids, and physical misconduct (i.e. kicking or punching). Any replacement product will be warranted for the remainder of the original warranty period.

No other warranties

To the maximum extent permitted by applicable law, Atlona Technologies and its suppliers disclaim all other warranties, either expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with regard to the product and any related written materials. This Limited Warranty gives customer specific legal rights. Customers may have other rights depending on the jurisdiction.

No liability for damages

To the maximum extent permitted by applicable law, in no event shall Atlona Technologies or its suppliers be liable for any damages arising out of the use of or inability to use this product, even if Atlona Technologies has been advised of the possibility of such damages. Such damages include but are not limited to: special, incidental, consequential, or indirect damages for personal injury, loss of business profits, business interruption, loss of business information, or any other pecuniary loss.

Atlona Technologies' and its suppliers' entire liability under any provision of this agreement shall be limited to the amount actually paid by you for the product. Some Jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damage. The above limitations may not apply to you in such jurisdictional cases.

ATLONA PRODUCT REGISTRATION

Thank you for purchasing this Atlona product. - We hope you enjoy it and will take an extra few moments to register your new purchase.

Registration creates an ownership record if your product is lost or stolen and helps ensure you'll receive notification of performance issues and firmware updates.

At Atlona, we respect and protect your privacy, assuring you that your registration information is completely secure. Atlona product registration is completely voluntary and failure to register will not diminish your limited warranty rights.

To register go to: ***http://www.atlona.com/registration***